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NWIRP CALVERTON NY  
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PITT-03-5-011

March 10, 2005

Mr. Greg Kozlowski  
Regional Wetland Manager  
New York State Department of Environmental Conservation  
Division of Environmental Permits  
Building 40 - SUNY  
Stony Brook, New York 11790-2356

Reference: CLEAN Contract No. N62472-03-D-0057  
Contract Task Order 0004

Subject: Installation Vertical Profile Borings, Piezometers, and  
Monitoring Wells SA-PZ-119S and 0120S - Peconic River  
New York State/Former United States Navy Property  
Naval Weapons Industrial Reserve Plant (NWIRP) Calverton

Dear Mr. Kozlowski:

Please find enclosed information that we discussed during our site visit on November 23, 2004. Attached is background information on the project, a map showing the drilling locations, and the proposed access route. One location and its access route will impact wetlands adjacent to the Peconic River. As discussed in the attachment, the data to be collected are critical to understanding contaminant migration in the area, and steps will be taken to minimize impact to the wetlands.

The referenced property was formerly part of the NWIRP Calverton property and was conveyed from the United States Navy to the State of New York. Activities on this property are being conducted in accordance with that conveyance document.

If you have questions or need additional information, please call Mr. Jim Colter (Navy) at 610-595-0567, extension 163 or me at (412) 921-8375.

Sincerely,

David D. Brayack  
Project Manager

/DDB

cc: Mr. R. Boucher (Navy) w/o attachment  
Mr. J. Colter (Navy)  
Mr. S. Farkas (NYSDEC)  
Mr. J. Trepanowski (TtNUS), PC  
File: N1610

**ATTACHMENT  
VERTICAL PROFILE BORING AND WELL INSTALLATION  
ADJACENT TO THE PECONIC RIVER  
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP)  
CALVERTON, NEW YORK**

**1.0 INTRODUCTION**

The proposed field activities are being conducted as part of an environmental groundwater investigation at Site 6A (Fuel Calibration Area) and the Southern Area at Naval Weapons Industrial Reserve Plant (NWIRP) Calverton, New York (See Figures 1, 2, 3, and 4). The facility is located within the municipality of Riverhead on Long Island, in Suffolk County and is approximately 70 miles east of New York City.

The field work is being conducted by Tetra Tech NUS, Inc. (TtNUS) and a drilling subcontractor under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract N62472-03-D-0057, Contract Task Order (CTO) 0004. The objectives of the field activities are to collect groundwater data to define the extent of solvent-contaminated groundwater, to determine contaminant migration pathways, and to better determine the potential for significant impact to the Peconic River and/or groundwater users to the south and east.

This work is being conducted in accordance with the requirements of the New York State Department of Environmental Conservation (NYSDEC) Division of Solid & Hazardous Materials Part 373 Permit issued to the Navy on April 18, 2000 under the NYSDEC implementing regulations [6 New York Codes, Rules, and Regulations (NYCRR) Part 621]. Although the Part 373 Permit is the enforceable document governing the Navy's remedial actions, the NYSDEC State Superfund Group, located in the Albany office, retains primary responsibility for regulatory oversight of the Navy's actions. The Navy has agreed to a request made by the NYSDEC State Superfund Group to utilize terminology associated with the NYSDEC State Superfund program, which is closely related to the Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Program. The CERCLA terminology parallels the RCRA terminology, and the implementation phases for each program have been determined to meet the substantive requirements of both programs and will also satisfy the Corrective Action requirements set forth in Module III of the Part 373 permit. Site 6A is listed as Classification 2 in the NYSDEC Registry of Inactive Waste Disposal Sites.

Site 6A consists of fuel- and solvent-contaminated groundwater with residual floating free product present. Based on local topography and the results of previous groundwater investigations in the area, contaminated surface water and groundwater migrate from Site 6A southeast toward the Peconic River. Because of actual and potential impacts, the study area between Site 6A and the Peconic River is referred to the Southern Area. Contaminants in the groundwater in the Southern Area are believed to be naturally attenuating as they migrate and are not expected to have a significant

impact on the Peconic River. However, groundwater investigation and monitoring in the Southern Area will be required to confirm/document the attenuation.

## **2.0 OBJECTIVES AND SCOPE**

The objectives of the current investigation are to determine the extent of deep groundwater contamination at Site 6A (spill area), to delineate the extent of an off-site groundwater plume in the Pistol Range area of the Sportsman Club, to determine whether contaminated groundwater is migrating into or beneath the Peconic River, and to verify the southwestern extent of the off-site contaminated groundwater (Swan Pond area). The Pistol Range, Peconic River, and Swan Pond areas are located within the Southern Area. Field activities at Site 6A, the Pistol Range, Swan Pond areas, and along existing roads in the Peconic River area are mostly complete. Based on these data, the primary study area for potential impact to the Peconic River is north of the Peconic River, south of River Road, and east of Connecticut Avenue (Figure 3).

The locations of proposed boring SA-VPB-119 (SA-PZ-119S) and boring SA-VPB-120 (SA-PZ-120S) are in an area of thick natural vegetation and are not readily accessible to vehicular traffic (Figure 4). Because of access issues and the potential for wetland impact, activities at these locations were not conducted during a previous investigation in the area (1997/1998 field investigation). Instead, field work was conducted along Connecticut Avenue and River Road to the west and north of this area. However, groundwater contamination has been detected upgradient of the proposed borings and the current data indicate that these boring locations are within the most likely flow path for groundwater contamination.

## **3.0 FIELD PROCEDURES**

Field activities will consist of following:

- Installation of soil borings, collection of groundwater samples using temporary wells points (vertical profile borings), and installation of permanent wells (piezometers).
- Well development.
- Surveying.
- Collection of groundwater samples from piezometers (monitoring wells) and periodic water-level measurements.
- Access to install borings.
- Site restoration to address impacts from drilling activities and vehicle access.

Each of these activities is discussed below.

### **3.1 Installation of Soil Borings, Collection of Groundwater Samples, and Installation of Permanent Wells**

The soil boring associated with SA-PZ-120/SA-VPB-120 was installed using hollow-stem auger drilling technique. The hollow stem auger is mounted on the back of the four-wheel drive truck. During drilling, the auger forms a cylindrical hole approximately 8 inches in diameter to the depth of the boring. For SA-VPB-120, the hole was drilled to a

depth of approximately 70 feet below ground surface. On the inside of the auger, an opening of approximately 4.5 inches is formed.

The soil boring associated with SA-PZ-119 and SA-VPB-119 will be installed with a tripod and manual hammer or a direct push technique. This technique will form a cylindrical hole approximately 2 to 4 inches in diameter to the depth of the boring. SA-VPA-119 is scheduled to be drilled to a depth of approximately 70 feet below ground surface. However, because of the drilling technique, this depth may not be achieved.

Soil and groundwater samples are collected from both borings. A shallow 2-inch polyvinylchloride (PVC) piezometer is then installed in the boring to allow for water level measurements and collection of groundwater samples.

Except for the piezometer screened interval, the annular space between the piezometer and the outside wall of the boring is sealed with a combination of bentonite (natural clay) and cement. The piezometer is capped off with a steel casing to protect it from incidental damage.

Soil cuttings from the boring are collected and transported to NWIRP Calverton for characterization and proper disposal.

### **3.2 Well Development**

Well development involves the extraction of water from the well to remove particulates in the area of the screen. Based on the local formation, 50 to 300 gallons of water will be removed. Purged groundwater will be collected and transported back to NWIRP Calverton for characterization and proper disposal.

### **3.3 Surveying**

A licensed surveyor using a global positioning system (GPS) will be used to establish the horizontal and vertical coordinates for each of the wells. Limited cutting of overhead branches may be required to allow adequate GPS coverage and accuracy.

### **3.4 Groundwater Sampling and Water Level Measurements**

Groundwater sampling and water level measurement events will be conducted periodically for several years.

Piezometers/monitoring wells will be sampled using a variable-speed submersible or peristaltic pump. Three- to five-well screen volumes of water (4 to 6.5 gallons) will be removed to purge the well. Purge water will be transported to NWIRP Calverton, characterized, and properly disposed.

Water level measurements involve using a probe to measure the depth to water from a reference point on the piezometer (well). The reference point is established by the surveyor.

### **3.5 Access to Install Borings**

Location SA-PZ-120S (SA-VPB-120) is truck accessible from River Road via an existing, unpaved vehicle access road. From the unpaved vehicle access road, the boring location is approximately 100 feet west, across dry upland soils. Some rutting of the access route may occur. Also, some cutting of brush, two small-diameter trees, and branches on several larger trees is also required to access this location. Wetland-type vegetation is located approximately 50 to 70 feet south of the boring location. The boring is located approximately 300 feet from the Peconic River. Access and drilling activities are not expected to directly impact the wetlands.

Access to location SA-PZ-119S (SA-VPB-119) is through thick brush and saturated soils typical of local wetlands. Standing water is not obvious along this path. During a site visit in November 2004, truck access (as per the original plan) was determined not to be feasible without extensive clearing, regrading and placement of fill material. As a result, an alternative approach using a manual drilling technique or a direct push technique was proposed. These approaches require the use of an all terrain vehicle (ATV) to transport drilling equipment from River Road to the boring location and to remove soil cuttings and development water from the boring location. Alternatively, a small track-mounted direct push rig may be used. Long term access for groundwater sampling and water level measurements will be via a foot path.

To access location SA-PZ-119S, an existing upland path (potentially from an old cranberry bog dike) was observed to lead from River Road approximately 75 percent of the distance to the boring location. The conditions on the path vary from no vegetation and 8 feet wide to approximately 3 feet wide and covered with heavy brush.

From the existing upland path to the boring location, crossing of several hundred feet of very soft wet soils will be required. The area is also contains brush of variable density. Without some stabilization, foot, ATV or track mount is likely to cause deep ruts to develop. The area has no apparent drainage and therefore erosion is not expected to be an issue. The selected path detours around an area of wetland soils with a higher density of vegetation.

For boring SA-PZ-119S, to address the potential for rut formation and to maintain a usable temporary ATV or track mount path and permanent long-term foot access, the following steps are proposed:

1. Clear brush along the upland path from River Road. Small-diameter trees (less than 2 inches) and branches of larger-diameter trees will be cut as needed.
2. As needed, the upland path will be regraded to allow safe use of an ATV or track mount.
3. As needed for the ATV, the path will be stabilized using a synthetic, mesh-type geotextile (plastic snow fence). The geotextile path will be approximately 4 to 6 feet wide and anchored along the edges with wooded stakes.

4. If needed, commercially available sand will be used to fill any depressions that form. The use of fill will be minimized and the fill will only be used to restore depressions to the original grade
5. After the well is installed and developed, the path through the wetland will be modified to reduce visual impact. In general, the geotextile will remain in the softest areas; however, visible portions of the geotextile will be folded or removed to reduce the path to a width of approximately 3 feet. Portions of the geotextile not required for foot traffic will be removed.

### **3.6 Site Restoration**

Site restoration activities are expected to vary based on location and soil type.

Dry upland soils will be regraded and/or raked to remove evidence of vehicle access. In the event that natural area vegetation is not re-established by July 2005, top-soil, soil, straw, and a perennial rye seed will be placed in the disturbed area to enhance restoration.

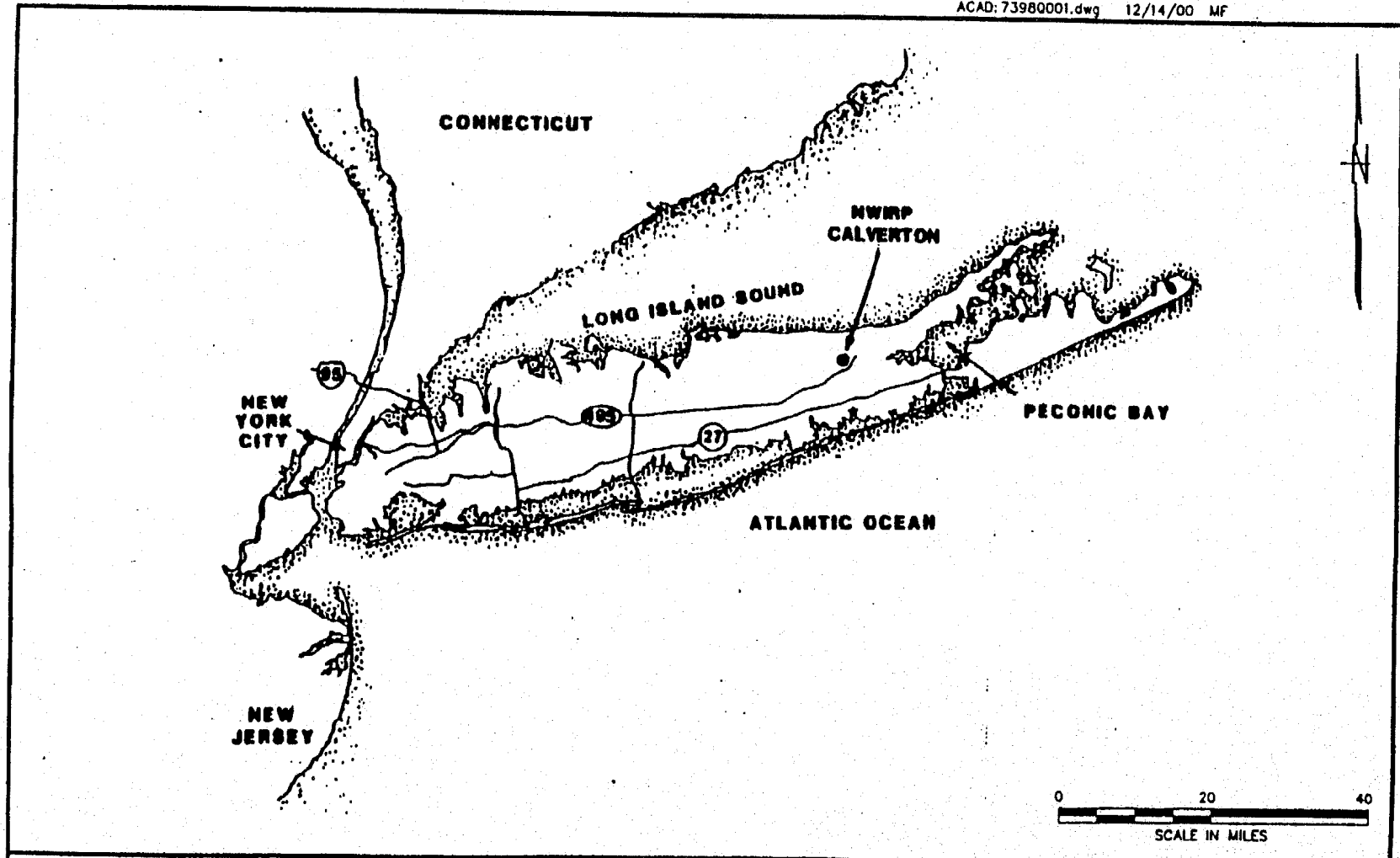
In the area of SA-PZ-120S, two 6-foot pine pitch or white oak trees will be planted between the vehicle access road and boring location.


A barricade will be installed between River Road and the upland access path to prevent unauthorized vehicle traffic to SA-PZ-119S. The barricade will allow foot traffic.

The upland path from River Road to the wetland area will be inspected, and potential areas of erosion will be stabilized as needed. Stabilization activities may include placement of geotextile, regrading, and planting of grass.

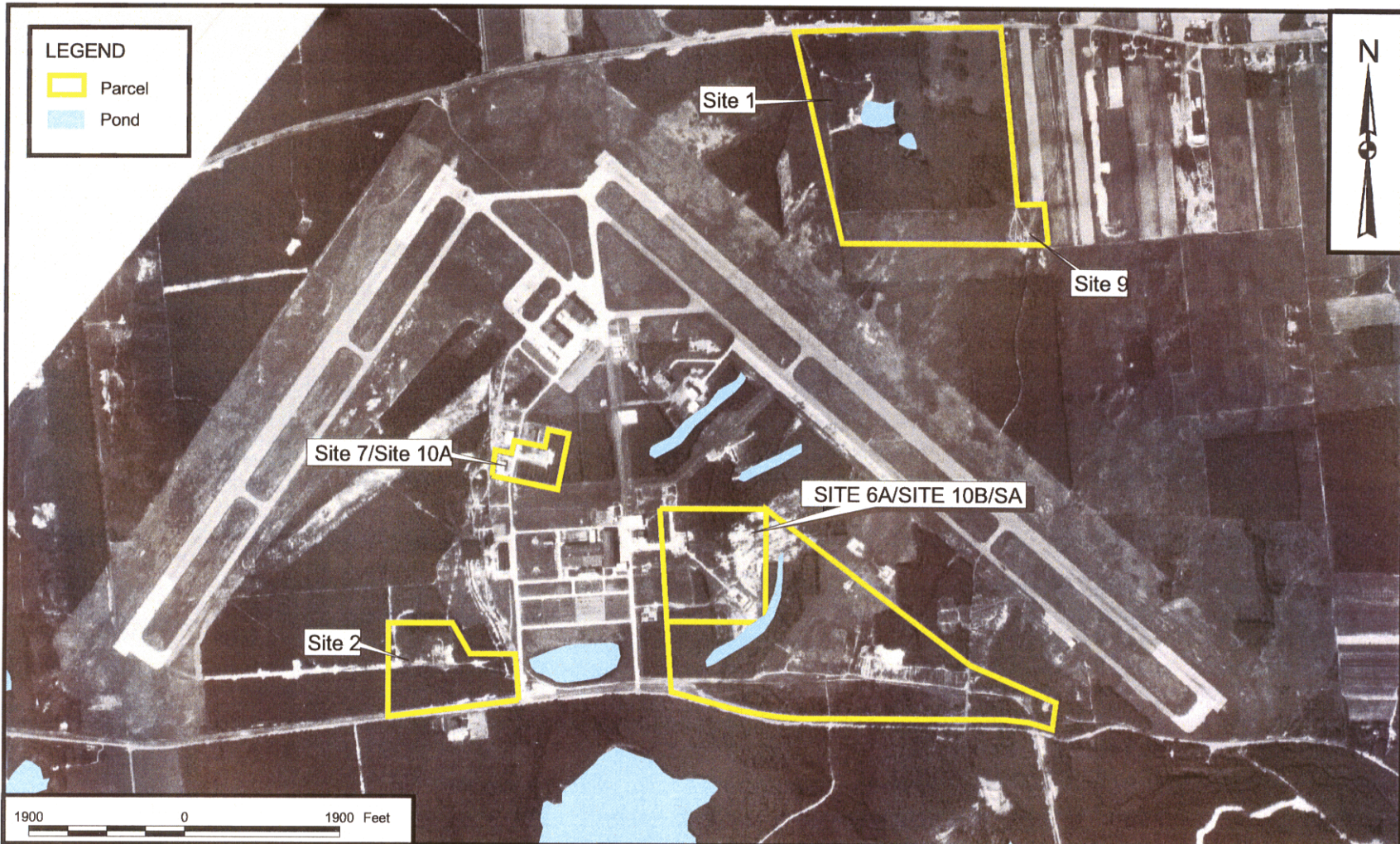
The wetland portion of the path to SA-PZ-119S will be modified to reduce visual impact. The geotextile will remain in the softest portions of the path to allow foot access. However, visible portions of the geotextile will be folded over or removed to reduce the path width to approximately 3 feet.

Because this is an active wetland and the anticipated disturbance will be relatively minor, active revegetation of the wetland is not anticipated.




DRAWN BY DLT	DATE 12/22/99	 Tetra Tech NUS, Inc.  GENERAL LOCATION MAP RCRA FACILITY INVESTIGATION NWIRP, CALVERTON, NEW YORK	CONTRACT NO. 7398	OWNER NO.
CHECKED BY	DATE		APPROVED BY	DATE
COST/SCHED-AREA			APPROVED BY	DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1	REV. 0





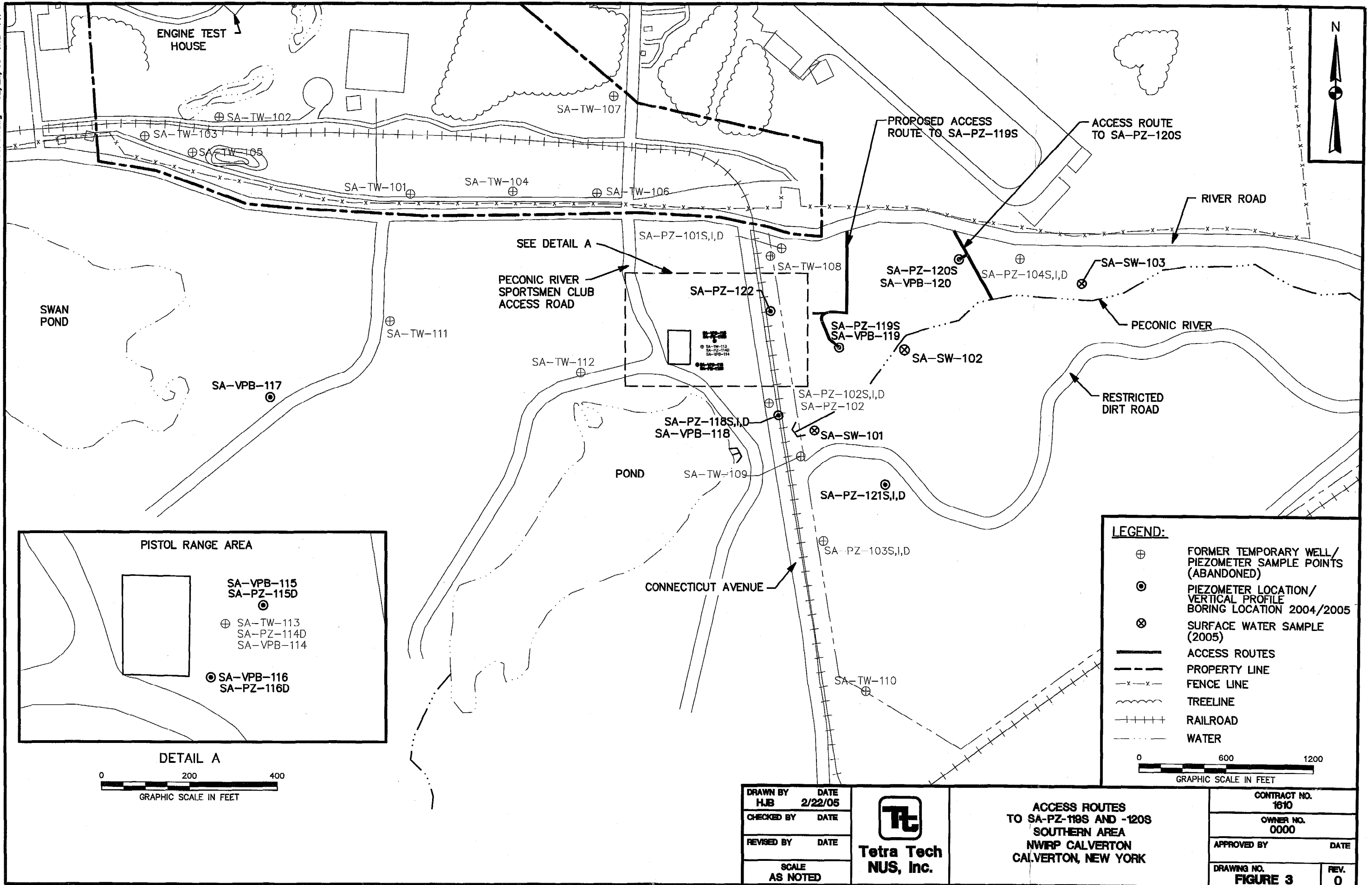
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 Tetra Tech NUS, Inc.	
<p align="center"><b>SITE LOCATION MAP</b> NWIRP CALVERTON, NEW YORK</p>	

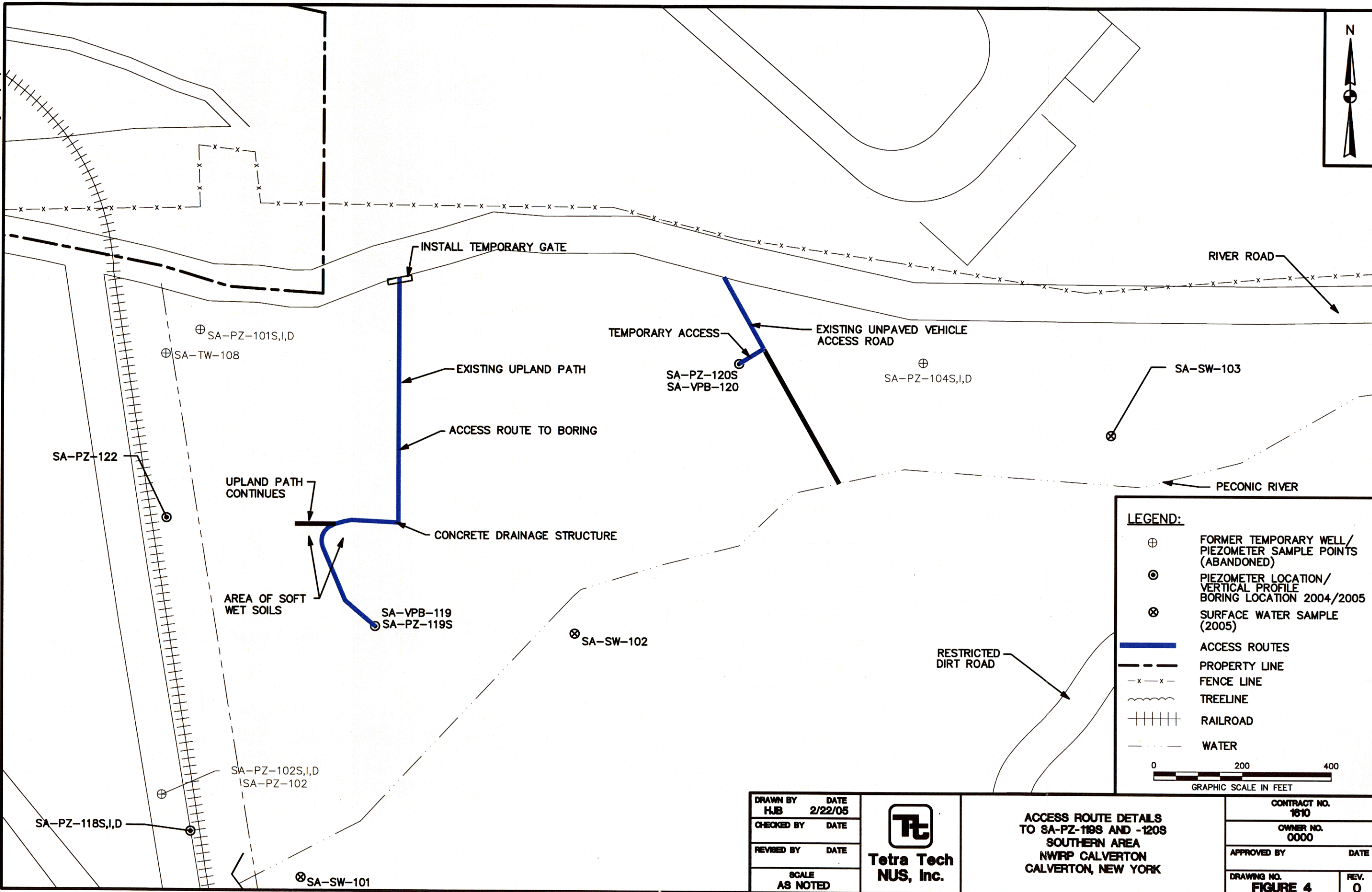
CONTRACT NUMBER 7398	OWNER NUMBER 0270
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APPROVED BY _____	DATE _____
DRAWING NO. FIGURE 2	REV 0



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**LEGEND:**

- ⊕ FORMER TEMPORARY WELL/PIEZOMETER SAMPLE POINTS (ABANDONED)
- ⊙ PIEZOMETER LOCATION/VERTICAL PROFILE BORING LOCATION 2004/2005
- ⊗ SURFACE WATER SAMPLE (2005)
- ACCESS ROUTES
- - - - - PROPERTY LINE
- x - x - FENCE LINE
- ~~~~~ TREELINE
- +++++ RAILROAD
- WATER

0 200 400  
GRAPHIC SCALE IN FEET

DRAWN BY HJB CHECKED BY REVISED BY SCALE AS NOTED	DATE 2/22/05 DATE DATE DATE	 <b>Tetra Tech NUS, Inc.</b>	ACCESS ROUTE DETAILS TO SA-PZ-119S AND -120S SOUTHERN AREA NWRP CALVERTON CALVERTON, NEW YORK	CONTRACT NO. 1610 OWNER NO. 0000 APPROVED BY DATE DRAWING NO. FIGURE 4 REV. 0
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